CLAIMS

What is claimed is:

1. A method of securely transmitting medical data generated by a medical device, the method comprising:

creating a first account on a central medical information computer for the medical device;

generating a first digital certificate for the medical device;

mapping the first digital certificate to the first account;

transferring the first digital certificate to the medical device;

creating a second account on the central medical information computer for a user interface device;

generating a second digital certificate for the user interface device;

mapping the second digital certificate to the second account;

transferring the second digital certificate to the user interface device;

receiving medical data at the central medical information computer using the first digital certificate, the medical data being generated by the medical device; and

transmitting the medical data from the central medical information computer to the user interface device using the second digital certificate.

2. A method as defined in claim 1, further comprising establishing a secure connection between the central medical information computer and the medical device, wherein the central medical information computer does not produce any user interface prompts for the medical device.

3. A method as defined in claim 1, further comprising transmitting an operating parameter to the medical device using the first digital certificate.

4. A method as defined in claim 3, wherein transmitting the operating parameter to the medical device comprises transmitting at least one of a start signal and a stop signal.

5. A method as defined in claim 3, wherein transmitting the operating parameter to the medical device comprises transmitting volume rate data to an infusion pump controller.

6. A method as defined in claim 5, wherein the infusion pump controller is integral to an infusion pump.

7. A method as defined in claim 3, wherein transmitting the operating parameter to the medical device comprises transmitting at least one of a start time, a stop time, and volume rate data to an infusion pump which is integral to an infusion line set.

8. A method as defined in claim 1, wherein creating the first account on the central medical information computer for the medical device comprises creating a first user account in an active directory.

9. A method as defined in claim 8, wherein the active directory comprises at least one of a Microsoft Active Directory, a Novell Directory Services, and a Lightweight Directory Access Protocol.

10. A method as defined in claim 1, wherein generating the first digital certificate for the medical device comprises generating the first digital certificate at the central medical information computer.

11. A method as defined in claim 10, wherein generating the first digital certificate at the central medical information computer comprises generating the first digital certificate at the central medical information computer using at least one of Microsoft Certificate Services and Open Certificate Authority.

12. A method as defined in claim 1, wherein mapping the first digital certificate to the first account comprises associating the first digital certificate with an active directory.

13. A method as defined in claim 1, wherein:

transferring the first digital certificate to the medical device comprises transferring the first digital certificate to the medical device via a cable; and

receiving the medical data at the central medical information computer using the first digital certificate comprises receiving medical data at the central medical information computer

wirelessly.

14. A method as defined in claim 1, wherein transferring the first digital certificate to the medical device comprises transferring the first digital certificate to an infusion pump controller.

15. A method as defined in claim 14, wherein the infusion pump controller is integral to an infusion pump.

16. A method as defined in claim 14, wherein the infusion pump controller is structured to control an infusion pump which is integral to an infusion line set.

17. A method as defined in claim 1, wherein receiving medical data at the central medical information computer comprises receiving medical data generated by a controller for infusion pump.

18. A method as defined in claim 1, wherein:

receiving medical data at the central medical information computer comprises receiving the medical data at the central medical information computer wirelessly; and

transmitting medical data from the central medical information computer to the user interface device comprises transmitting the medical data from the central medical information computer to the user interface device wirelessly.

19. A secure patient care system comprising:

a central medical information computer;

a wireless access point operatively coupled to the central medical information computer;

a medical device equipped to facilitate wireless communication with the central medical information computer via the wireless access point, the medical device being structured to securely communicate with the central medical information computer using a first digital certificate; and

a user interface device equipped to facilitate wireless communication with the central medical information computer via the wireless access point, the user interface device being structured to securely communicate with the central medical information computer using a

second digital certificate.

20. A system as defined in claim 19, wherein the central medical information computer is structured to establish a secure connection between the central medical information computer and the medical device, wherein the central medical information computer does not produce any user interface prompts for the medical device.

21. A system as defined in claim 19, wherein the central medical information computer is structured to transmit an operating parameter to the medical device using the first digital certificate.

22. A system as defined in claim 21, wherein the medical device is structured to receive at least one of a start time and a stop time from the central medical information computer.

23. A system as defined in claim 21, wherein the medical device comprises an infusion pump controller structured to receive volume rate parameters from the central medical information computer.

24. A system as defined in claim 19, wherein:

the central medical information computer stores a patient identifier and a medication identifier in association with the patient identifier, and

the user interface device stores a task structured to accept the patient identifier from a user and securely retrieve the medication identifier from the central medical information computer based on the patient identifier.

25. A system as defined in claim 19, wherein the central medical information computer is structured to:

create a first account on the central medical information computer for the medical device;

generate a first digital certificate for the medical device;

map the first digital certificate to the first account; and

transfer the first digital certificate to the medical device.

26. A system as defined in claim 25, wherein the central medical information computer is structured to:

create a second account on the central medical information computer for the user interface device;

generate a second digital certificate for the user interface device;

map the second digital certificate to the second account; and

transfer the second digital certificate to the user interface device.

27. A system as defined in claim 26, wherein the medical device is structured to send medical data from the medical device to the central medical information computer using the first digital certificate.

28. A system as defined in claim 19, wherein the medical device comprises an infusion pump controller.

29. A system as defined in claim 28, wherein the infusion pump controller is integral to an infusion pump.

30. A system as defined in claim 19, wherein the medical device comprises an infusion pump which is integral to an infusion line set.

31. A system as defined in claim 27, wherein the user interface device is structured to access the medical data at the central medical information computer from the user interface device using the second digital certificate.

32. A system as defined in claim 19, wherein the user interface device comprises at least one of a personal digital assistant (PDA), a tablet computer, a workstation, a laptop computer, and a wireless telephone.

33. A machine-readable medium storing instructions structured to cause a central medical information computer to:

create a first account on the central medical information computer for a medical device;

generate a first digital certificate for the medical device;

map the first digital certificate to the first account;

transfer the first digital certificate to the medical device;

create a second account on the central medical information computer for a user interface device;

generate a second digital certificate for the user interface device;

map the second digital certificate to the second account;

transfer the second digital certificate to the user interface device;

receive medical data from the medical device using the first digital certificate; and

send the medical data to the user interface device using the second digital certificate.

34. A machine-readable medium as defined in claim 33, wherein the instructions are structured to cause the central medical information computer to establish a secure connection between the central medical information computer and the medical device, wherein the central medical information computer does not produce any user interface prompts for the medical device.

35. A machine-readable medium as defined in claim 33, wherein the instructions are structured to cause the central medical information computer to transmit an operating parameter to the medical device using the first digital certificate.

36. A machine-readable medium as defined in claim 33, wherein the instructions are structured to cause the central medical information computer to transmit pump control data to a pump controller.

37. A method of securely transmitting medical data generated by a medical device, the method comprising:

providing for creating a first account on a central medical information computer for the medical device;

providing for generating a first digital certificate for the medical device;

providing for mapping the first digital certificate to the first account;

providing for transferring the first digital certificate to the medical device;

providing for creating a second account on the central medical information computer for

a user interface device;

providing for generating a second digital certificate for the user interface device;

providing for mapping the second digital certificate to the second account;

providing for transferring the second digital certificate to the user interface device;

providing for receiving medical data at the central medical information computer using the first digital certificate, the medical data being generated by the medical device; and

providing for transmitting the medical data from the central medical information computer to the user interface device using the second digital certificate.

38. A method as define in claim 37, wherein the central medical information computer does not produce any user interface prompts for the medical device.

39. A method as define in claim 37, further comprising providing for transmitting an operating parameter to the medical device using the first digital certificate.

40. A method as defined in claim 37, further comprising providing for transmitting volume rate parameters to an infusion pump controller.

41. A method as defined in claim 37, wherein providing for generating a first digital certificate for the medical device comprises providing for generating the first digital certificate for an infusion pump which is integral to an infusion line set.

42. A method of securely communicating with a medical device, the method comprising:

creating an account on a central medical information computer for the medical device;

generating a digital certificate for the medical device;

mapping the digital certificate to the account;

transferring the digital certificate to the medical device; and

assigning a role to the account, the role being selected from a plurality of medical device roles.

43. A method as defined in claim 42, wherein the role comprises one of a one-way communication role and a two-way communication role.

44. A method as defined in claim 42, wherein the role comprises one of a view only role and a programming role.

45. A method as defined in claim 42, wherein the role comprises one of a nurse role and a physician role, the role defining a command that can be sent to the medical device and a type of information that can be received from the medical device.

46. A method as defined in claim 45, wherein the role comprises one of an operator role and a technician role.

47. A method as defined in claim 43, wherein the medical device comprises an infusion pump controller.